REMARKS:

In the outstanding Office Action, the Examiner allowed claim 6-11 and rejected claims 1, 3-5 and 12-24. No new matter is presented. Thus, claims 1-24 are pending and under consideration. The rejections are traversed below.

ALLOWED CLAIMS:

At item 5 of the outstanding Office Action, the Examiner indicated that claims 6-11 are allowed.

REJECTION UNDER 35 U.S.C. § 103(a):

Claims 1, 3-5 and 12-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of the following: U.S. Publication No. 2002/0015200 (Jennings), U.S. Patent No. 5,995,254 (Koga), U.S. Patent No. 6,288,809 (Touma) and U.S. Patent No. 5,500,756 (Tsushima).

Jennings discusses transmitting and receiving optical test signals of a certain wavelength through optical links. In Jennings, a laser test source generates optical signals having a wavelength of λ1 to be transmitted with other optical signals of wavelength λ2 (see, paragraph 16). Then, the other optical signals of wavelength λ2 are passed through a receiver of customer equipment, while the signals of wavelength λ1 are looped back via a loopback link to be transmitted to a central office with optical signals of wavelength λ3 (see, paragraph 16 and FIG. 2).

The Examiner relies on Koga as teaching monitoring of a transmission line since the down data signal and the up data signal is transmitting through different links. However, in Koga, multiplexed signal lights having wavelengths of λ1 and λ2 are maintained until the signal lights are received at receiving sections (see, FIG. 2 and corresponding text).

The Examiner asserts that Touma teaches the claimed first and second optical coupling units, first and second optical dividing units, first and second optical coupling units that are formed of passive elements operable without a power supply. Specifically, the Examiner appears to equate the optical star coupler SC in Touma with the claimed passive optical coupling/dividing units. Touma specifically states:

> "These down signal frames are converted into down optical signals whose wavelengths are 1.3 μm (system0) and 1.5 μm (system1) respectively, by the photoelectric converters 4, 5. These down optical signals are coupled by the optical wavelength selecting coupler

6, and is put into the optical transmission line to the subscribers."

(col. 5, lines 56-62 of Touma)

> "The down optical signals are transmitted to the optical wavelength selecting coupler 21 at the optical network units ONU1-ONUn through the optical star coupler SC. At the optical wavelength selecting coupler 21, the wavelengths of 1.3 μm (system0) and 1.5 μm (system1) are selected/demultiplexed."

(col. 5, line 65 through col. 6, line 3 of Touma)

> "The optical signal transmitted to the optical service unit OSU through the optical star coupler SC is selected/demultiplexed per each wavelength at the optical wavelength selecting coupler 6 as the down signal is sent to the optical network units ONU1-ONUn."

(col. 6, lines 36-40 of Touma)

As can be seen from the above discussion, the optical star coupler SC of Touma transmits one or more received optical signals to one or more destinations, but does not demultiplex an optical signal into a signal with a first wavelength and a signal with a second wavelength, nor multiplex signals having different wavelengths. Specifically, the optical wavelength selecting coupler (OWSC) (6 or 21) in the optical service unit (OSU) or the optical network unit (ONU) performs the demultiplexing process, and performs the multiplexing process in Touma. In addition, Touma does not teach or suggest that the OWSC is a passive element. Thus, according to Touma, the OWSC is supplied with a power since the OWSC is located in a unit (OSC, ONU).

For the above-discussed reason, the Examiner does not appear to have established a prima facie case of obviousness. For this reason it is requested that the rejection be withdrawn.

Independent claim 1 recites that "a first optical coupling unit couples a down data signal of a first wavelength and an examination signal of a second wavelength to transmit a first coupled signal" and "a first optical dividing unit to demultiplex said first coupled signal to divide and split said first coupled signal", where the examination signal is "returned." The claimed invention in claim 1 "couples an up data signal with the first wavelength and said returned examination signal to transmit a second coupled signal toward a host apparatus" and demultiplexes the second coupled signal into said up data signal with the first wavelength and said returned examination signal with the second wavelength." As such, the claimed monitoring apparatus "monitors a fault and a location of said fault by using said examination signal with the

second wavelength and determines whether said fault occurs in the transmission line and/or in the apparatus connected with the transmission line."

Claim 1 also recites that "said first optical coupling unit, said first optical dividing unit, said second optical coupling unit and said second optical dividing unit are formed of passive elements that are operable without a power supply."

Independent claims 12-17 also recite, "determining whether said fault occurs in the transmission line and/or in the apparatus connected with the transmission line", where "the coupling and demultiplexing operations are performed using a unit formed of passive elements that are operable without a power supply."

Claim 18 recites, "dividing a first coupled signal having a down data signal of a first wavelength and an examination signal of a second wavelength" and "separately returning the examination signal of the second wavelength and at least a portion of the down data signal of the first wavelength." Claim 18 further recites, "inserting the returned portion of the down data signal into an up data signal with a first wavelength."

In the outstanding Office Action, the Examiner does not appear to address the disclosed feature directed to determining "whether said fault occurs in the transmission line and/or in the apparatus connected with the transmission line", recited in claims 1 and 12-17. Applicants respectfully submit that none of the cited references teach this feature claimed in each of the independent claims 1 and 12-17.

The Examiner also relies on the combination of Touma, Jennings, Koga and Tsushima to reject dependent claim 4. However, the cited references do not teach or suggest the claimed apparatus that "monitors a signal level of said examination signal with the second wavelength and, if said signal level is lower than a predetermined signal level, then outputs alarm information", inserts "said alarm information into said up data signal to be transmitted to said host apparatus" (claim 4), including determining "whether said fault occurs in the transmission line and/or in the apparatus connected with the transmission line" (claim 1 upon which claim 4 depends).

It is submitted that the independent claims are patentable over the cited references.

For at least the above-mentioned reasons, claims depending from the independent claims are patentably distinguishable over the cited references. The dependent claims are also independently patentable. For example, as recited in claim 19, "wherein said up data signal with

the first wavelength includes at least a portion of said down data signal inserted therein." The cited references, alone or in combination, do not teach or suggest these features of claim 19 including "a portion of said down data signal inserted" in the up data signal with the first wavelength (see also, claims 20-22).

Therefore, withdrawal of the rejection is respectfully requested.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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